Microsoft® Multiplan®

Electronic Spreadsheet Program

Quick Reference Guide

Microsoft®

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Version 4.2
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Contents

Microsoft documentation uses the term "OS/2" to refer to the OS/2 systems—Microsoft® Operating System/2 (MS® OS/2) and IBM® OS/2. Similarly, the term "DOS" refers to both the MS-DOS® and IBM Personal Computer DOS operating systems. The name of the specific operating system is used when it is necessary to note features that are unique to that system.

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Starting and Quitting

To start Multiplan® and open a new worksheet

1. If necessary, switch to the drive and directory that contain your Multiplan files.
2. At the DOS or OS/2 prompt, type **mp** and press Enter.

After you start Multiplan, you can load other worksheets by using the Transfer Load command.

To quit Multiplan

► Choose Quit from the main command menu.

Multiplan prompts you to save any unsaved changes and returns you to the DOS or OS/2 prompt.

Using the Keyboard

In the four tables that follow, the first column lists actions you can perform with the Multiplan keyboard, and the second column lists the keys you press on an IBM PC, PS/2, or compatible keyboard. The third column lists the keys you press on any keyboard.

Some actions show more than one set of associated keystrokes separated by the word "or." This means you can achieve the action by using either set of keystrokes.

A plus sign (+) used between two key names indicates that you must press both keys at the same time. For example, "Press Ctrl+F" means that you press the Ctrl key and hold it down while you press the F key.

A comma (,) between two key names indicates that those keys must be pressed sequentially. For example, "Press F3, direction key" means that you press the F3 key and release it, and then press one of the direction keys.

Moving the Cell Pointer

Action	IBM PC	All keyboards
Up	The Up Arrow key	Ctrl+E
Down	The Down Arrow key	Ctrl+X
Left	The Left Arrow key	Ctrl+S
Right	The Right Arrow key	Ctrl+D
Next window	F1	Ctrl+W or ;
Previous window	Shift+F1	Ctrl+R, Ctrl+W
Next unlocked cell	F2	Ctrl+F or Linefeed
Previous unlocked cell	Shift+F2	Ctrl+R, Ctrl+F

Scrolling Through the Window

Action	IBM PC	All keyboards
Page up	PgUp	Ctrl+R, Ctrl+E
Page down	PgDn	Ctrl+R, Ctrl+X
Page left	Ctrl+Left Arrow	Ctrl+R, Ctrl+S
Page right	Ctrl+Right Arrow	Ctrl+R, Ctrl+D
Home	Home	Ctrl+Q
End	End	Ctrl+Z
Home window	Ctrl+Home	Ctrl+R, Ctrl+Q

Selecting and Carrying Out Commands

Action	IBM PC	All keyboards
Cancel	Esc	Ctrl+C
Enter (Return)	Enter	Return or Enter
Select next item	Spacebar or Tab	Spacebar
Select previous item	Backspace or Backtab	Backspace or Ctrl+H
Tab	Tab	Tab or Ctrl+I
Backtab	Shift+Tab	Ctrl+R, Ctrl+I
Help	Alt+H or ?	?
Recalculate	F4	!
Alternate	Alt	Ctrl+A or Alt
Select range	F6 or :	:

Editing Cells and Commands

Action	IBM PC	All keyboards
Delete	Del	Delete or Ctrl+Y
Backspace	Backspace	Backspace or Ctrl+H
Character left	F9	Ctrl+K
Character right	F10	Ctrl+L
Word left	F7	Ctrl+O
Word right	F8	Ctrl+P
Reference	F3	@
Function enumeration	Shift+F3, direction key	@, @, direction key
Name enumeration	F3, direction key	@, direction key
Edit macro (on or off)	F5	Ctrl+V
Single step through macro (on or off)	Shift+F5	Ctrl+T
Record macro (on or off)	Shift+F9 or Shift+F7	Ctrl+R, Ctrl+R
Refresh links	Shift+F6	Ctrl+R, Ctrl+U
Edit home	Shift+F8	Ctrl+R, Ctrl+O
Edit end	Shift+F10	Ctrl+R, Ctrl+P

Aligning Cell Contents

You can choose the way cell contents are aligned by setting the response in the "alignment" field of the Format Cells command.

The alignment settings have the following effects.

Alignment	Result
Def	Default; aligns cell contents by the default alignment
Ctr	Center; centers cell contents in the column
Gen	General; aligns text left, numbers right
Left	Aligns cell contents to the left
Right	Aligns cell contents to the right
– (hyphen)	Ignored; leaves all alignment codes as they are (used when changing the format of a group of cells while retaining the alignment)

Speed Formatting Cell Contents

You can quickly choose formatting options in the "format" field of the Format Cells command by pressing one of the following keys.

Key	Formatting option
C	Continuous ("@[cont]")
D	Default
E	Exponential ("0E+00")
F	Fixed point ("0.00")
G	General
I	Integer ("0")
$	Currency ("$#,##0.00;($#,##0.00)")
*	Bar ("BAR;(BAR)")
%	Percent ("0%")
– (hyphen)	Ignored

Functions

You can use the following functions with Multiplan. The functions are listed in alphabetical order, and arguments to the functions are enclosed in parentheses and shown in italic type.

To view a list of the functions when editing or entering a formula, press Shift+F3 (or press @@) after choosing the Value command and then press a direction key.

Function	Result
ABS(*number*)	Returns the absolute value of *number*
ACOS(*number*)	Returns arccosine of *number*
AND(*list*)	Returns TRUE if all logical values in *list* are TRUE; otherwise, returns FALSE
AREAS(*ref*)	Returns the number of areas in *ref*
ASIN(*number*)	Returns arcsine of *number*
ATAN(*number*)	Returns the arctangent of *number*
ATAN2(*x-number, y-number*)	Returns arctangent of the x and y coordinates represented by *x-number* and *y-number*
AVERAGE(*list*)	Returns the average of numbers in *list*

Function	Result
CELL(*type-of-info,reference*)	Returns information about the formatting, location, or contents of the upper-left cell in *reference*
CHAR(*number*)	Returns the ASCII character represented by *number*
CHOOSE(*index-number,list*)	Uses *index-number* to choose from *list*
CLEAN(*text*)	Removes all non-printable characters from *text*
CODE(*text*)	Returns the decimal ASCII code of the first character in *text*
COLUMN()	Returns the column number of the containing cell
COLUMNS(*ref*)	Returns the number of columns in *ref*
COS(*number*)	Returns the cosine of *number*
COUNT(*list*)	Returns the count of numbers in *list*
COUNTA(*list*)	Returns the count of the non-blank cells in the list of cells
DATE(*year,month,day*)	Returns the serial number of the specified date
DATEVALUE(*text*)	Converts *text* to a date serial number
DAVERAGE(*database, "field",criteria*)	Averages the values in the *field* column of records in the *database* that satisfy the *criteria*
DAY(*serial-number*)	Converts *serial-number* to a day of the month
DCOUNT(*database,"field", criteria*)	Counts the cells that contain numbers in the *field* column of records in the *database* that satisfy the *criteria*
DCOUNTA(*database,"field", criteria*)	Counts the cells that are not blank in the *field* column of records in the *database* that satisfy the *criteria*
DDB(*cost,salvage-value, useful-life,period, factor*)	Returns depreciation of an asset for a specific *period* based on the asset's initial *cost*, *salvage-value*, and *useful-life*, using *factor* for the rate at which the balance is to decline
DELTA()	Returns the maximum change in values between iterations

Function	Result
DMAX(*database,"field", criteria*)	Returns the largest number in the *field* column of records in the *database* that satisfies the *criteria*
DMIN (*database,"field", criteria*)	Returns the smallest number in the *field* column of records in the *database* that satisfies the *criteria*
DOLLAR(*number,number-of-decimals*)	Rounds *number* to *number-of-decimals* and converts to text in currency format
DPRODUCT(*database,"field", criteria*)	Multiplies the values in the *field* column of records in the *database* that satisfy the *criteria*
DSTDEV(*database,"field", criteria*)	Estimates the standard deviation of a population based on a sample, using the numbers in the *field* column of records in the *database* that satisfy the *criteria*
DSTDEVP(*database,"field", criteria*)	Calculates the standard deviation of a population based on the entire population, using the numbers in the *field* column of records in the *database* that satisfy the *criteria*
DSUM(*database,"field", criteria*)	Adds the numbers in the *field* column of records in the *database* that satisfy the *criteria*
DVAR(*database,"field", criteria*)	Estimates the variance of a population based on a sample, using the numbers in the *field* column of records in the *database* that satisfy the *criteria*
DVARP(*database,"field", criteria*)	Calculates the variance of a population based on the entire population, using the numbers in the *field* column of records in the *database* that satisfy the *criteria*
EXP(*number*)	Returns the value e to the power of *number*
FACT(*number*)	Returns the factorial of *number*
FALSE()	Returns the logical value FALSE
FIND(*find-text,within-text, start-at-num*)	Finds *find-text* within *within-text*, starting the search at the character specified by *start-at-num*
FIXED(*number,number-of-digits*)	Rounds *number* and returns text in fixed format

Function	Result
FV(*rate,nper,pmt,pv,time-of-pmt*)	Returns future value of investment
HOUR(*serial-number*)	Converts *serial-number* to an hour of the day
IF(*logical,value-if-true, value-if-false*)	Returns *value-if-true* if *logical* is TRUE; *value-if-false* if *logical* is FALSE
INDEX(*ref,row,column*)	Returns the cell contents of the specified *row* and *column* in *ref*
INT(*number*)	Returns the largest integer that is less than or equal to *number*
IPMT(*rate,period,nper,pv, fv, type*)	Returns interest payment for a given *period* for an investment based on periodic, constant payments and a constant interest rate
IRR(*ref,guess*)	Returns the internal rate of return of cash flows in *ref*
ISBLANK(*item*)	Returns TRUE if *item* is a blank cell
ISERR(*item*)	Returns TRUE if *item* is any Multiplan error value except #N/A; otherwise, FALSE
ISERROR(*item*)	Returns TRUE if *item* is any error value
ISLOGICAL(*item*)	Returns TRUE if *item* is a logical value; otherwise, FALSE
ISNA(*item*)	Returns TRUE if *item* is the error value #N/A
ISNUMBER(*item*)	Returns TRUE if *item* is a number or logical value
ISREF(*item*)	Returns TRUE if *item* is a reference
ISSTRING(*item*)	Returns TRUE if *item* is text
ITERCNT()	Returns the current iteration count
LEFT(*text,number-of-characters*)	Returns the first *number-of-characters* in *text*
LEN(*text*)	Returns the length of *text*
LN(*number*)	Returns the natural logarithm to the base e of *number*
LOG(*number,base*)	Returns the logarithm of *number* to *base*
LOG10(*number*)	Returns the logarithm to the base 10 of *number*

Function	Result
LOOKUP(*search-value,table*)	Returns the item in *table* specified by *search-value*
LOWER(*text*)	Converts all uppercase letters in *text* to lowercase
MAX(*list*)	Returns the largest number in *list*
MID(*text,start,number-of-characters*)	Extracts *number-of-characters* from *text*
MIN(*list*)	Returns the smallest number in *list*
MINUTE(*serial-number*)	Converts *serial-number* to a minute
MIRR(*ref,safe,risk*)	Returns the modified internal rate of return of cash flows in *ref*
MOD(*numerator, denominator*)	Returns the remainder of *numerator* divided by *denominator*
MONTH(*serial-number*)	Converts *serial-number* to a month of the year
N(*ref*)	Returns the value of the cell in the upper-left corner of *ref*
NA()	Returns the error value #N/A
NAME()	Returns the filename of the worksheet
NOT(*logical*)	Returns TRUE if *logical* is FALSE; FALSE if *logical* is TRUE
NOW()	Returns the serial number of current date and time
NPER(*rate,pmt,pv,fv, time-of-pmt*)	Returns the number of payments for an investment
NPV(*rate,list*)	Returns the net present value of *list*
OR(*list*)	Returns TRUE if any value in *list* is TRUE; otherwise, returns FALSE
PI()	Returns the value of π to 14 decimal places
PMT(*rate,nper,pv,fv, time-of-pmt*)	Returns the periodic payment of an investment
PPMT(*rate,period,nper,pv, fv,type*)	Returns payment on principal for a given *period* for an investment based on periodic, constant payments and a constant interest rate

Function	Result
PRODUCT(*list*)	Returns product of numbers in *list*
PROPER(*text*)	Capitalizes the first letter in *text* and each letter in *text* that follows a space
PV(*rate,nper,pmt,fv, time-of-pmt*)	Returns the present value of an investment
RAND()	Returns a random number between 0 and 0.999...
RANK(*number,ref,order*)	Returns the rank of *number* within *ref*
RATE(*nper,pmt,pv,fv, time-of-pmt,guess*)	Returns the rate returned on an investment
REPLACE(*old-text,start-num,num-chars,new-text*)	Removes *num-chars* characters from *old-text* starting at *start-num*, and then replaces them with *new-text*
REPT(*text,count*)	Repeats *text count* times
RIGHT(*text,number-of-characters*)	Returns the last *number-of-characters* in *text*
ROUND(*number,number-of-decimals*)	Returns *number* rounded to *number-of-decimals*
ROUNDDOWN(*number, number-of-decimals*)	Returns *number* rounded down to *number-of-decimals*
ROUNDUP(*number, number-of-decimals*)	Returns *number* rounded up to *number-of-decimals*
ROW()	Returns the row number of the containing cell
ROWS(*ref*)	Returns the number of rows in *ref*
S(*ref*)	Returns the value of the cell in the upper-left corner of *ref*
SEARCH(*find-text, within-text,start-at-num*)	Searches for *find-text* within *within-text*, starting the search at the character specified by *start-at-num*
SECOND(*serial-number*)	Converts *serial-number* to a second
SIGN(*number*)	Returns the sign of *number*
SIN(*number*)	Returns the sine of *number*
SLN(*cost,salvage-value, useful-life*)	Returns straight-line depreciation for an asset for a single period

Function	Result
SQRT(*number*)	Returns the square root of *number*
STDEV(*list*)	Estimates the standard deviation of a population based on the sample values in *list*
STDEVP(*list*)	Returns the standard deviation of a population based on the entire population, using the values in *list*
SUBSTITUTE(*text,old-text, new-text,instance-number*)	Substitutes *new-text* for *old-text* in *text*
SUM(*list*)	Returns the sum of numbers in *list*
SYD(*cost,salvage-value,useful-life,period*)	Returns sum-of-years' digits depreciation for an asset for a specified period
TAN(*number*)	Returns the tangent of *number*
TEXT(*number,format-string*)	Returns *number* as text, according to *format-string*
TIME(*hour,minute, second*)	Returns the serial number of the specified time
TIMEVALUE(*text*)	Converts *text* to a time serial number
TRIM(*text*)	Removes extra spaces from *text*
TRUE()	Returns the logical value TRUE
TRUNC(*number*)	Truncates *number* to an integer by removing the fractional part
UPPER(*text*)	Converts all lowercase letters in *text* to uppercase
VALUE(*text*)	Converts *text* to a number
VAR(*list*)	Estimates the variance of a population based on the sample values in *list*
VARP(*list*)	Calculates the variance of a population based on the entire population, using the values in *list*
VERSION( )	Returns the current version number of Multiplan
WEEKDAY(*serial-number*)	Converts *serial-number* to a day of the week
YEAR(*serial-number*)	Converts *serial-number* to a year

Error Values

When a Multiplan function, operation, or reference is used incorrectly, an error value results. Error values are preceded by the # symbol, unless you're using the international display option. The following table lists the Multiplan error values and possible causes for them:

Error value	Cause
#DIV/0!	An attempt to divide by 0
#N/A	An unavailable value
#NAME?	An undefined name reference
#NULL!	Specification of an intersection of disjoint areas; for example, R1 R2
#NUM!	An overflow because a number is too large or too small, or illegal use of an arithmetic function
#REF!	A relative reference reaching outside the worksheet, or a reference to a deleted or undefined area
#VALUE!	Text where a number is needed or vice versa, or a reference in an illegal context when a value is needed

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